

IN THE CLAIMS

1. through 22. (Canceled).

23. (New) A computer-implemented method for diagnosing a problem associated with a computing system, the method comprising the steps of:

executing one or more probes in accordance with at least a portion of a previously selected probe schedule;

when a result of one or more of the probes of the previously selected probe schedule indicates, at least, a potential problem associated with the computing system, selecting in real-time one or more probes which optimize at least one criterion, wherein the step of selecting in real-time one or more probes which optimize at least one criterion further comprises the step of selecting in real-time one or more probes which maximize information gain relating to the potential problem;

executing the one or more selected probes so as to diagnose the potential problem;

analyzing results of the execution of the one or more selected probes using a probabilistic inference and using one or more prior fault probabilities for one or more system components;

wherein sets of probes to be executed are preselected such that a problem detection probe set (DPS) and a problem localization probe set (LPS) to be executed are preselected, wherein probes of the DPS are intended to cover any given problem and probes of the LPS are intended to localize a problem detected by a probe of the DPS; and

repeating the step of selecting in real-time one or more probes which optimize at least one criterion and the step of analyzing results of the execution of the one or more selected probes until a particular level of diagnostic confidence is reached.